

AMENDMENTS TO THE SPECIFICATION

In accordance with 37 C.F.R. § 1.121(b)(ii), please amend the first paragraph on page 3 of the Application as follows:

While heat spreaders have proven to be effective in increasing heat dissipation efficiency, there are problems with the current design that lead to decreased manufacturing yields, as well as higher packaging costs. ~~Figure 2 illustrates FIGS. 2a-2b illustrate~~ these problems.

In accordance with 37 C.F.R. § 1.121(b)(ii), please amend the second paragraph on page 11 of the Application as follows:

~~Figure 4~~ FIG. 4a shows another embodiment of the present invention. Here, the contiguous wall structure **303a** shown in Figure 3 is reduced in size. In an embodiment, the reduced-size wall structure **402a** will have a height of 30 mm. In a different embodiment, the wall height may be greater or less than this, or eliminated (see Figure 6 below). The smaller wall **402a** serves as a point of mechanical attachment for a flexible polymeric sealant material **403a**, which bonds the heat spreader **301a** to the substrate **307a**. The sealant material **403a** surrounds the device **304a** and fills the gap between the substrate **307a** and the heat spreader **301a**, forming a completely enclosed cavity containing the device **304a**. The use of the sealant material **403a** allows for a more flexible bond between the substrate **307a** and the heat spreader **301a**. The flexible bond may help to compensate for differing coefficients of thermal expansion (CTE) between the heat spreader and the substrate, resulting in a more consistent heat conduction pathway. A second advantage of the current embodiment is that the sealant/reduced size wall combination is much lighter in weight as compared to the prior art wall design, resulting in a lighter package. An example of a sealant material **403a** that could be used is silicone or another proprietary sealant formulation. Additionally, the embodiment shown in FIG. 4a further includes stand-offs 405a attached to a bottom surface of heat spreader 301a and in contact with device 304a. Standoffs 405a should improve bond layer thickness control between device 304a and heat spreader 301a, leading to a lower cost and lower mass package, as well a more reliable device

with increased thermal performance. Interdisposed between heat spreader 301a and device 304a are metal particles 306a within a thermal interface material 305a.